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Effect of the medium on the acid-base properties of α-aminophosphoryl compounds

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Abstract

Structural thermodynamic analysis of the acidity of α-aminophosphoryl compounds in water-isopropanol systems was carried out by means of evaluation of the Gibbs energies of transfer of species involved in protolytic equilibria. Protonated (deprotonated) forms of structurally diverse aminophosphoryl compounds similarly interact by the mechanism of specific and universal solvation with each of the water-isopropanol solvents (100, 50, and 25 vol % of water) in the reaction series used. For this reason, there are significant linear correlations between acidity parameters for various media, which makes possible successful predictions of the acid-base properties of structurally diverse compounds of the class studied in water-isopropanol media with various water contents. © 2005 Pleiades Publishing, Inc.

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